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pubescens, and *Lophozia Hatscheri* (Evans) St., while the beach along the Visp above the town, offered *Lophozia badensis* (Gottsche) Schiffn. in neat little tufts.

Along the path from the Riffelalp to Findelen glacier was the usual alpine limestone mixture, *Lophozia lycopodioides*, *Cephalozia pleniceps*, *Blepharostome*, *Pellia Fabroniana*, *Preissia*, *Lophozia Muelleri*, *L. incisa* (Schrad.) Dum. on old stumps. Over on the moraine in front of the glacier was *Fimbriaria fragrans* Nees.

Chamonix was the nearest like the White Mts., as it is siliceous ground, and here (as all through Switzerland) Bernet's Catalogue was quite invaluable. Our first walk, up the Brévent path, produced *Diplophylleia obtusifolia* Trevis., *Marsupella Funckii* (W. & M.) Dum. and *Nardia hyalina* (Lyell.) Carr. The path up to the Mer de Glace via the Mauvais Pas and back via Montanvert, yielded *Jungermannia spaerocarpa* Hook. *Lophozia alpestris* (Schleich.) Evans. *Lophozia Floerkii* (W. & M.) Schiffn., *Alicularia Geoscypha* De Not, *Marsupella Funckii*, besides many commoner species.

On the roof of Amiens Cathedral was a large crop of *Barbulae*, in fine fruit, and the writer's last collection was of *Lunularia cruciata* (L.) Dum. around a spring in the garden of friends at Halstead, England.

In Paris the writer passed a most delightful afternoon at the home of M. Renauld, who has recently died. In London she had most agreeable interviews with Mr. Gepp at the British Museum, Dr. Dixon, Mr. Wright at Kew, and Dr. Braithwaite, and these form some of the pleasantest memories of the trip.

Hartford, Conn.

LICHEN NOTES No. 15.

Remarks on Some *Cladonia* Species.

G. K. MERRILL.

Dr. J. Müller in the Regensburg Flora, 1878, p. 482 is inclined to believe that *Helopodium capitatum* Michaux Flor. Amer. Bor. II p. 329 is synonymous with *Cladonia leptophylla* (Ach.) Flk. As it is not definitely settled if it be *Cl. leptophylla* or only something that resembles it, that Wainio and others have recognized in the material sent them from this country, one wonders if the plant of Michaux may not as well be referred to *Cl. mitrula* Tuck. Floerke in his Monograph and Nylander in Synopsis seem disposed to regard the form as associable with the Cocciferae, presumably because of Michaux's indication that the apothecia were "rubiginosa-rufis," but Acharius referred the plant to that section which includes *Cl. botrytes* and *Cl. leptophylla*, both of which have light colored fruit, and seems not to have questioned Michaux's assignment of it to Helopodia. It is very probable that Acharius had no knowledge of *Helopodium capitatum* derived from an examination, prior to his work on Muhlenberg's collections. Indeed the evidence of his ever having seen the form is negative. Coemans (Clad. Achariana) states that no specimen of *H. capitatum* is to be found in the Acharian herbarium, and adds that the plant must be regarded as problematical.

The following is a free translation of the earliest description of *H. capitatum*: Thallus foliaceous, imbricated, above sordid-olivaceous, beneath grayish-white; podetia simple, or rarely with the apices shortly divided, sub-stramineous; apothecia solitary or conglomerate, sub-globose "rubiginosa-rufis." Aside from the color of the podetia and apothecia the description answers very well for that of *Cl. mitrula*. Specimens of *Cl. mitrula* with straw-colored podetia and reddish apothecia are sometimes seen, but the characteristic color for the latter is from flesh through reddish-brown to brown. A single example of *Cl. mitrula* might be selected from an extended series with very light colored podetia and rufescent fruit, agreeing in all other respects with the description of Michaux, but no specimens have yet been examined by the writer which were possessed of distinctly red apothecia. There are three considerations pointing toward the equivalency of *Cl. mitrula* with *Helopodium capitatum*. The first is the general agreement of *Cl. mitrula* with the description of Michaux's plant. The second lies in the fact that while Schweinitz, Ravenel, Curtis and Green have examined the Carolina region with considerable thoroughness, and *Cl. mitrula* has at least been collected by the last three, no worker examining their material has discriminated *Helopodium capitatum*. Lastly, certain European authorities profess to find *Cl. leptophylla* represented in material coming to their notice and originating in America, when such passes with our own students as unquestionable *Cl. mitrula*. It is improbable that the plant of Michaux has been overlooked in the field, for judging by his list the old botanist only collected and recorded the more conspicuous lichens.

Searching for a reason why Müller, Wainio and others have saluted certain examples of our *Cl. mitrula* as *Cl. leptophylla*, the curious discovery is made that while the *Cl. leptophylla* of England, where it was first found, is totally unlike *Cl. mitrula* in any stage of its growth, the *Cl. leptophylla* of continental Europe approximates in many particulars juvenile conditions of our plant. This resemblance extends to the convexity and shape of the thalline scales, stature (small forms of *Cl. mitrula* only) costate and fissured podetia, the occasional short branched apices, color of the podetia, and the cortical character and color of the podetia in rather a less degree. With hydrate of potash *Cl. leptophylla* affords the same puzzling and discrepant reactions to be noted with *Cl. mitrula*. Of *Cl. leptophylla*, Wainio, Sanstede, Parrique, Aigret and Boistel, state the reaction to be KHO+faint, on the other hand Crombie, Leighton, and Olivier record that none is observable. This might be taken to indicate that there are two states of *Cl. leptophylla*, one KHO+ and the other minus; if so it is noteworthy that England where the plant was discovered furnished the negative. It may be mentioned here that these forms of *Cl. mitrula* nearest to the European *leptophylla* have in our experience failed to respond to KHO. Like all *Cladonia* species *Cl. mitrula* is very protean. Simulating as herein mentioned in its juvenile conditions *Cl. leptophylla* of Continental Europe, it varies to imitate *Cl. cariosa cribosa* (Wall.) Wain. and in those plants furnished with a verrucose cortex very much resembles *Cl. cariosa corticata*

Wain. Reduced states have been mistaken for *Cl. caespiticia* (Pers.) Flk., *Cl. botrytes* (Hag.) Willd., and a specimen without visible thallus reposing in my herbarium was so named by its collector (and he was no novice), *Baeomyces rosus*. *Cl. mitrula* is represented in my herbarium by forty-seven specimens, from as many different localities. I possess examples from Texas, Nebraska, Iowa and No. Dakota as a western limit, and every State on the Atlantic seaboard from Florida to Massachusetts and from many stations within the area thus bounded. I have not found it in Maine, and it seems to be rare in British America. Cuban specimens examined, but identified by others, have an enormously developed thallus and represent an extreme variation for the plant deserving recognition by name.

Rockland, Maine.

CHARLES R. BARNES AND JULIUS RÖLL'S COLLECTION OF MOSSES IN NORTH AMERICA.

By E. J. HILL.

In the obituary notice of Charles Reed Barnes in the May number of THE BRYOLOGIST most of his contributions to American bryology are mentioned. But there is one I have not seen noticed in such a connection. This with additional bibliographical and historical matter, gives the occasion for the following statements.

In 1888 and 1889 a collecting trip to North America was made by Dr. Julius Röhl, of Darmstadt, Germany. It was under the patronage of Dr. G. Dieck, proprietor of a school of forestry at Zöschen, in Merseburg. At New Bremen, Ohio, he was joined by Mr. C. Purpus, and in Manitoba by Mr. M. Riss. These collected insects and the higher plants, Dr. Röhl giving his time chiefly to the cryptogams, the mosses especially. The states in which collections were made are New York, New Jersey, Indiana, Illinois, Wisconsin, Minnesota, North Dakota, Montana, Wyoming, Idaho, Oregon, Washington and British Columbia. New York is scarcely cited in the published account; New Jersey at New Durham, mainly for sphagna, in which Röhl is a specialist. The collecting ground in Indiana and Illinois is the region bordering Lake Michigan from the dune locality at its south end, whose peaty areas abound in sphagna, to the dune locality north of Waukegan, Ill. In Wisconsin, Milwaukee, and Princeton on Fox River were the main centers for collecting. It is stated that most attention was bestowed on the west coast and the Cascade Mountains (Vancouver Island, Washington and Oregon), the Rocky Mountains in Idaho, Wyoming and Montana, and the region of the Great Lakes in Indiana, Illinois and Wisconsin, the greater part of citations of localities being from these areas.

Eighty-one species of Lichens were collected, assigned to Dr. J. Müller, of Genf, and published in the Regensburg Flora, 1889. The new species, varieties and forms of mosses were first published in the Botanisches Centralblatt of Uhlworm and Kiohl, Vols. 44 and 45, 1890, 1891, under the general title: Vorläufige Mittheilungen über die von mir im Jahre 1888, in

Some Lophozias of the Ventricosa Group. Illus. Annie Lorenz.	Sullivant Moss Society Members.
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ERRATA

- Page 14, line 11, for *chryosphyllum* read *chrysophyllum*.
Page 14, line 24, for cillata read ciliata
Page 15, line 4, for *Splenalobus* read *Splenolobus*.
Page, 28, line 7, for **Cetraria Californica** read CETRARIA CALIFORNICA.
Page 54, line 7 from bottom for *Syhagnum* read *Sphagnum*.
Page 54, line 10 for *roesanum* read *Roseanum*.
Page 54, lines 19 and 20, for *Palaisia* read *Pylaisia*.
Page 54, wherever Roell occurs read Röll.
Page 105, line 4, for *rosus* read *roseus*.
Page 108, line 1, for *aduncan* read *aduncum*.
Page 110, line 16 from bottom for *Burbula* read *Barbula*.